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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,389	12/01/2003	Michael Birschbach	67493-5015-02-US	5575

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EXAMINER	
LEWIS, BEN	

ART UNIT	PAPER NUMBER
1745	

MAIL DATE	DELIVERY MODE
09/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,389	BIRSCHBACH, MICHAEL	
	Examiner	Art Unit	
	Ben Lewis	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 01 December 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date See Continuation Sheet.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/8/06, 6/27/05, 8/9/04, 4/15/04 .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of carbon dioxide absorbent, in Paper filed May 29th, 2007 is acknowledged. The traversal is on the ground(s) that the outstanding office action does not identify search classifications and that a search and examination of the entire application would not place a serious burden on the examiner.

This is not found persuasive because species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 14-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Scheifers et al. (U.S. Patent No. 5,723,229).

With respect to claims 1,14,16 and 19, Scheifers et al. disclose a portable fuel cell device including a water trap (title).

With respect to a container comprising a first chamber for fuel, Scheifers et al. discloses a portable fuel cell device **10** (container) and a fuel reservoir **26** (first chamber for fuel) (Col 2 lines 35-45).

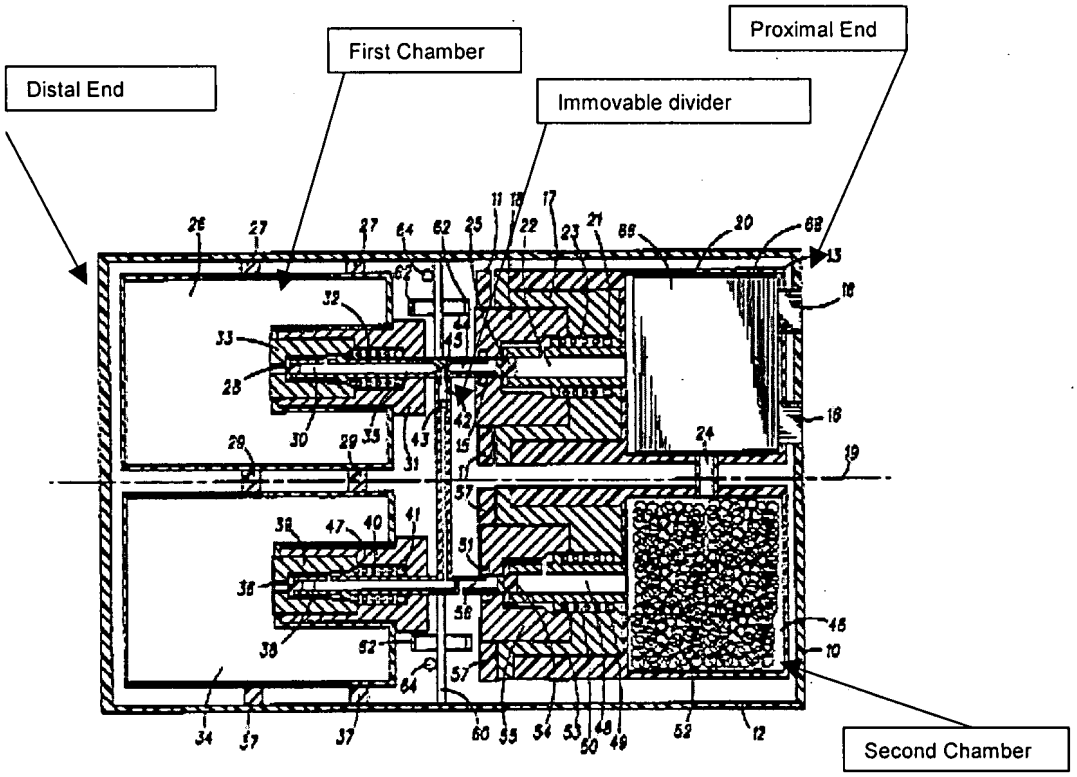
With respect to a port for delivery of fuel to a fuel cell assembly, Scheifers et al. teach that a fuel line **30** (fuel delivery port) is defined within fuel chamber valve **31** and fuel chamber valve body **33** and connects axially to fuel reservoir **26** (Col 2 lines 35-45).

With respect to a second chamber for one or more supplemental components wherein the second chamber comprises at least two ports at least one of which communicates with said fuel cell assembly, Scheifers et al. teach that a water trap **46** (absorbent device) (second chamber) is fixably attached to base **12** and is supported by exhaust chamber supports **57**. Exhaust line **24** (port connecting to fuel cell) connects with water trap **46** and preferably runs perpendicular to longitudinal axis **19**. By-products exhaust line **48** (second port) is defined within first female valve body **53** and second female valve body **55** and connects axially with water trap **46** (Col 2 lines 60-67).

With respect to claims 3, 15 and 18, Scheifers et al. teach that the exhaust gas produced by the reaction in reaction chamber **20** is passed through exhaust line **24** into

water trap **46**. The exhaust gas, typically comprised of water and carbon doxide, passes through water-absorbing medium **52**. In a preferred embodiment, water is trapped in water-absorbing medium **52**, while the carbon dioxide is passed through by-products exhaust line **48** into exhaust vent **56** and into the ambient atmosphere. In an alternate embodiment, both the water and the carbon dioxide are absorbed by water-absorbing medium **52**.

With respect to claims 2,4, 6 and 17 Scheifers et al. disclose,



With respect to claim 20 and 21, Scheifers et al. teach that the fuel cell is coupled to portable electronic device (Col 2 lines 7-15).

With respect to claim 22, Scheifers et al. teach that The invention allows portable fuel cells to be used to power portable products while effectively processing the by-product exhausts produced by the fuel cell reaction.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheifers et al. (U.S. Patent No. 5,723,229).

With respect to claim 5, Scheifers et al. disclose a portable fuel cell device including a water trap in paragraph 2 above.

With respect to a container comprising a first chamber for fuel, Scheifers et al. discloses a portable fuel cell device **10** (container) and a fuel reservoir **26** (first chamber for fuel) (Col 2 lines 35-45).

With respect to a second chamber for one or more supplemental components wherein the second chamber comprises at least two ports at least one of which communicates with said fuel cell assembly, Scheifers et al. teach that a water trap **46** (second chamber) is fixably attached to base **12** and is supported by exhaust chamber supports **57**. Exhaust line **24** (port connecting to fuel cell) connects with water trap **46** (absorbent device) and preferably runs perpendicular to longitudinal axis **19**. By-products exhaust line **48** (second port) is defined within first female valve body **53** and second female valve body **55** and connects axially with water trap **46** (Col 2 lines 60-67).

Scheifers et al. does not specifically teach wherein said first chamber is located near said proximal end and said second chamber is located near said distal end. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reposition the location of the first and second chamber of Scheifers et al. to be the same as the positioning claimed by applicant because the rearrangement of parts is a matter of obvious design choice.

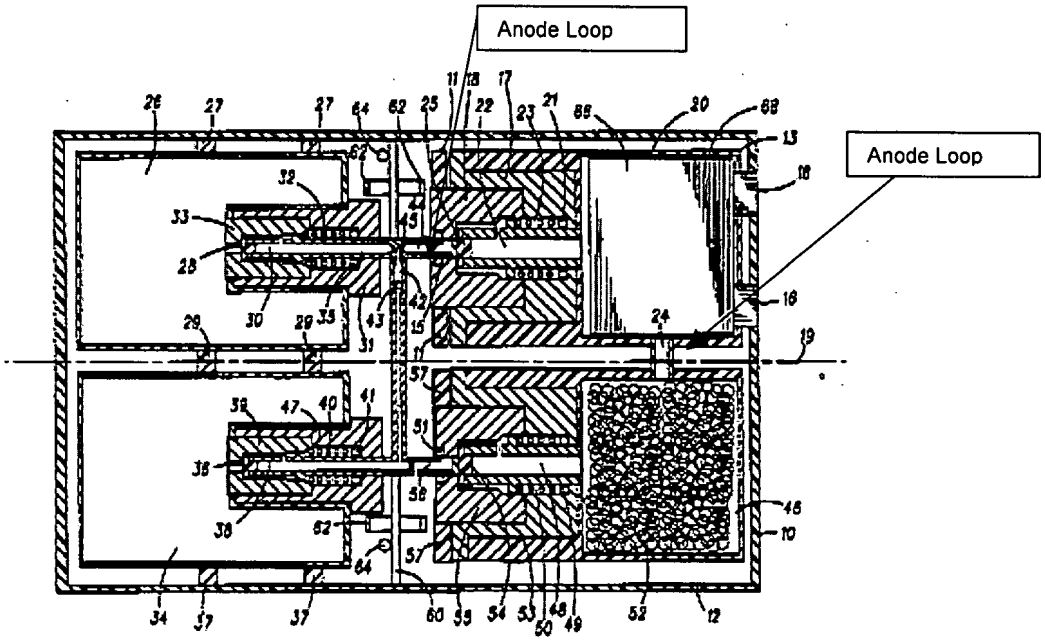
In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.); In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice). However, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the

terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

5. Claim 7-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheifers et al. (U.S. Patent No. 5,723,229) in view of Gamo et al. (U.S. Patent No. 5,976,725)

With respect to claims 7-10 and 13, Scheifers et al. disclose a portable fuel cell device including a water trap in paragraph 2 above.

Scheifers et al. do not specifically teach a metering valve. However, Gamo et al. disclose a fuel cell system wherein a valve mechanism provided in the hydrogen passage for opening and shutting hydrogen gas, and a hydrogen flow rate control mechanism provided in the hydrogen passage for controlling the flow rate of hydrogen gas and/or hydrogen pressure control mechanism for controlling the pressure of hydrogen gas, and therefore it can be used for a longer time, and can be reduced in size and weight (Col 12 lines 20-35). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the controlled valve mechanism of Gamo et al. into the fuel cell system of Scheifers et al. because Gamo et al. teach that the hydrogen gas can be used for a longer time, and can be reduced in size and weight (Col 12 lines 20-35)



6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheifers et al. (U.S. Patent No. 5,723,229) in view of Gamo et al. (U.S. Patent No. 5,976,725)

With respect to claim 11, Scheifers et al. disclose a portable fuel cell device including a water trap in paragraph 2 above. Scheifers et al. do not specifically teach a metering valve. However, Gamo et al. disclose a fuel cell system wherein FIGS. 17(a) and 17(b) are block diagrams of a portable battery pack using a hydrogen feed system for fuel cell in a different embodiment of the invention. In FIG. 17(b), the embodiment is a modified form of the preceding embodiment, and a filter 206 for passing only hydrogen is provided in the hydrogen lead-in hole 205. As a result, fluctuations of hydrogen occlusion alloy powder between chambers can be suppressed (Col 10 lines 20-40). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the fuel filter of Gamo et al. in the second

chamber of Scheifers et al. because Gamao et al. teach that fluctuations of hydrogen occlusion alloy powder between chambers can be suppressed (Col 10 lines 20-40).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheifers et al. (U.S. Patent No. 5,723,229) in view of Gamo et al. (U.S. Patent No. 5,976,725) and further in view of Boneberg et al. (U.S. Pub. No. 2001/0028965 A1).

With respect to claim 12, Scheifers et al. as modified by Gamo et al. disclose a portable fuel cell device including a water trap in paragraph 2 above. Scheifers et al as modified by Gamo et al. do not specifically teach a an ion exchange resin in fluid communication with said first chamber or said fluidic connector. However, Boneberg et al. disclose a tank for a carbon and hydrogen containing fluid (title) wherein in a particularly preferred tank G for methanol as the operating medium, zone 1 of the straining means D is a particle filter; zone 2 is a filter for hydrocarbons; zone 3 is a filter for higher alcohols, ketones, esters and dimethyl ether; zone 4 is a filter for chlorides; and zone 5 is a filter for sulphur compounds (Paragraph 0021). Preferred materials for the removal of hydrocarbons and higher alcohols, ketones, esters and dimethyl ether are activated carbon and/or zeolites. Preferred materials for the removal of chlorides are copper oxide and/or other metal salts and/or ion exchange resins (Paragraph 0022). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ion exchange resin of Boneberg et al. in the fuel cell system of Scheifers et al as modified by Gamo et al. because Boneberg et al. teach that ion exchange resins are used to remove fuel impurities.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ben Lewis

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

Patent Examiner
Art Unit 1745